

Lab helps girls explore engineering and technical careers

With help from two INL researchers, 40 girls from around Idaho got to explore career opportunities in math, science, technology and engineering June 15-16 in Boise.

The e-Girls camp at Boise State University targets girls in 9th and 10th grade and focuses on encouraging them to consider technical careers. Girls spent the two days participating in a variety of sessions, including packaging in the environment, the physics of rock climbing, rocketry and virtual worlds. Women mentors from BSU's College of Engineering, Society of Women Engineers, Micron Technology, Idaho Power, INL, PakSense, Hewlett-Packard, TenXsys and the Boise School District facilitated the activities and shared their personal experiences.

Cheryl O'Brien gives an e-Girls team a

Cheryl O'Brien gives an e-Girls team a "thumbs-up" as they subject their skyscraper to a "blow-dryer" hurricane.

the various forces.

INL molecular microbiologist Deborah Newby explored the world of "Xtreme Microbes" with participants. The girls learned how scientists at the lab have discovered unique microorganisms and have developed ways to use them to address industrial, medical and environmental challenges. INL's research and development of blue mussel adhesive, the development of Xtreme Xylanase, the discovery of ultra-stable Catalase Enzyme, and rapid methods for detection of Brucella were featured topics. The girls then had a chance to visit hands-on stations to test for enzyme activities that indicate the presence of E. coli in water samples and for catalase activity in different bacterial cultures.

INL structural engineer Cheryl O'Brien shared her career path from architectural to structural engineering to her current role in management, and encouraged the girls to consider the broad range of opportunities an engineering degree provides. Working in teams, the girls then created miniature natural disasters to test the structural integrity of a house, bridge, dam and skyscraper. They subjected their structures to simulated flood, hurricane, snow, hail, rain and human attack and analyzed how and why the structures performed as they did in response to

e-Girls analyze their bridge after a storm event.

Many of the girls learned of the e-Girls camp from teachers or parents, but most came because of a genuine interest in science. Jessika from Eagle, Idaho, attends the Meridian Medical Arts Charter High School. She loves math and hopes to study genetics in college. Jessika commented that the best thing about e-Girls was finding out how many career opportunities exist in science and engineering. Brittni, a student at Emmett High School, learned about the e-Girls program from her biology teacher and came with two friends to find out more about engineering. Although she's not sure what she wants to pursue in college, she's interested in mechanical engineering and likes doing hands-on work.

Thanks to engineers and scientists like O'Brien and Newby and programs such as e-Girls, girls can see for themselves the rewards of pursuing their interests in math and science in junior high, high school and college, and then launch their technology-based careers. For program sponsors like INL and other technology-based employers, e-Girls and similar outreach efforts provide unparalleled opportunities to identify and nurture the "home-grown" supply of exceptional female scientists and engineers they'll need to meet future business demands.

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Newby assists students in setting up an experiment to test for catalase activity.